

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Previously Presented) A method of measuring temperature value associated with melting, softening or decomposition, comprising:
~~providing a sample support plate;~~
~~placing a plurality of discrete samples on the support plate;~~
~~varying the temperature of the support plate;~~
~~observing the sample to detect a change in luminosity or reflectance caused by a change state of the sample;~~
~~recording the temperature of the plate associated with the change in luminosity or reflectance.~~
forming an array of samples on a support tray;
placing the support tray onto a heating device provided with temperature sensing means;
illuminating the support tray and the whole array of samples;
imaging the array of samples by a digital device;
varying the temperature of the heating device over a temperature range from below the anticipated melting, softening or decomposition point of the samples;
feeding an image of the whole array to a digital computer during the temperature variation sequence;
recording temperature values for the temperature of the heating device associated with each feed of image data;
reviewing the image data using image processing software loaded in the computer to detect changes in the image of the array, at each or selected sample locations;
logging the temperature of the heating device recorded in respect of an image change associated with a change in state of a sample.

2. (Previously Presented) A method according to claim 1, in which ~~images of the sample support plate are reviewed to detect a change of image intensity at sample locations, consequent on a change of state of the sample.~~ the image processing software detects changes in image intensity at sample locations.
3. (Previously Presented) A method according to claim 2 in which ~~an imaging device feeds images of the sample support plate to a computer, and a temperature sensing device feed temperatures to the computer, for association with the images, and image processing software is used to review the images to detect changes in image intensity, so that changes in intensity consequent upon a change in state of the sample can be associated with temperature value.~~ the heating device is provided with temperature sensing means that gives a computer readable output of the temperature of the block; the imaging device is a digital camera or webcam that feeds images to a computer loaded with the image processing software; the computer records temperature data associated with each image; and the image processing software is used to detect changes in the image intensity at each or selected sample locations; and the temperature associated with a significant change in intensity is noted.
4. (Previously Presented) A method of measuring temperature value associated with melting, softening or decomposition according to claim 3, comprising:
~~forming an array of samples on a support tray;~~
~~placing the support tray onto a heating device provided with temperature sensing means;~~
~~illuminating the support tray and observing the array of samples by an imaging device;~~
~~varying the temperature of the heating device over a temperature range from below the anticipated melting, softening or decomposition point of the samples to above the anticipated melting, softening or decomposition point of samples;~~
~~feeding image data from the imaging device to an image recording device during the temperature variation sequence;~~
~~recording temperature values for the temperature of the heating device associated with~~

~~each feed of image data;~~
~~reviewing the image data to detect changes in the image, such as image intensity, at each or selected sample locations;~~
~~logging the temperature of the heating device recorded in respect of an image change associated with a change in state of a sample.~~
according to claim 3, in which sequential images transmitted to the computer are stored in the computer memory with a temperature transmitted from the heating block at the time of creation of the image, and after completion of the heating cycle the stored images are processed to generate data relating to the intensity of the image at selected sample locations, and the intensity data and temperature data are used to generate a plot of intensity against temperature from which melting point values for the selected samples can be assessed.

5. (Previously Presented) A method according to claim 4 in which image processing software is used to detect changes in the image, for example the white intensity of the image, at each sample location. Apparatus for measuring melting point values comprising:

a heating device with temperature sensing means that gives a computer readable output of the temperature of the block;
a sample support tray that can be placed on the heating device to heat samples placed on the support tray;
a digital camera that can be positioned to image all samples on the support tray;
means for illuminating the samples for observation by the camera;
control means for varying the temperature of the heating device over a temperature range from below the anticipated melting, softening or decomposition point of the samples to above the anticipated melting, softening or decomposition points of the samples;
a computer to receive image data from the camera and temperature data from the sensing means on the heating block;
recording means to log images of the support tray and samples and record the temperature of the heating block;

an image processing program loaded in the computer and operable to review the images received from the camera, and monitor the intensity of the image at each or selected sample locations;
whereby significant changes in the images can be correlated with the temperature of the heating block.

6. (Previously Presented) ~~A method according to claim 5, in which the heating device is provided with temperature sensing means that gives a computer readable output of the temperature of the block; the imaging device is a digital camera or webcam that feeds images to a computer loaded with the image processing software; the computer records temperature data associated with each image; and the image processing software is used to detect changes in the image intensity at each or selected sample locations and the temperature associated with a significant change in intensity is noted. Apparatus according to claim 5 in which the camera is a webcam transmitting image data to the computer during the heating sequence.~~

7. - 9. (Cancelled)